IN THE CLAIMS:

Please amend claims 38-74, and please add new claim 75 as follows.

Claims 1-37. (Cancelled)

38. (Currently Amended) A receiver ~~for receiving~~configured to receive a plurality of signals ~~at the same time~~, said receiver comprising:

a plurality of receiving elements each of which is ~~arranged~~configured to receive a composite signal including at least some of said plurality of signals, wherein the receiver receives said plurality of signals at the same time; and

~~processing means for receiving~~a processor configured to receive said plurality of receiving elements composite signal and providing an estimate of at least two of said plurality of signals, said ~~processing means being arranged~~processor is configured to provide an estimate of a first one of said signals and ~~then~~to provide an estimate of a second one of said signals, wherein said ~~processing means is arranged~~processor is configured, for each already determined estimate, to extend the estimate with a plurality of potential values, wherein said estimate of said second one of said signals takes into account the estimate of the first signal and the estimate of the first signal is ~~can be~~ modified in dependence on the estimate of the second signal.

39. (Currently Amended) A receiver as claimed in claim 38, wherein said ~~processing means~~processor is ~~arranged~~configured to provide an initial estimate of said plurality of signals, said ~~processing means~~processor using said initial estimate as a first value for said first and second estimates.

40. (Currently Amended) A receiver as claimed in claim 38, wherein said ~~processing means~~processor is ~~arranged~~configured to provide an estimate of at least three signals and the estimate of each successive signal takes into account the previously determined signal estimates.

41. (Currently Amended) A receiver as claimed in claim 38, wherein said ~~processing means~~processor is ~~arranged~~configured to provide an estimate of at least three signals and any one or more of the previously determined estimated can be modified in dependence on a current signal estimate.

42. (Currently Amended) A receiver as claimed in claim 38, wherein said ~~processing means~~processor is ~~arranged~~configured to determine the order in which the signals are estimated.

43. (Currently Amended) A receiver as claimed in claim 42, wherein said ~~processing means~~processor ~~are~~is ~~arranged~~configured to determine the order in which the

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signals are estimated taking into account at least one of received signal level and signal to noise ratio.

44. (Previously Presented) A receiver as claimed in claim 38, wherein said potential values comprise constellation points.

45. (Previously Presented) A receiver as claimed in claim 44, wherein said estimate is extended by every possible constellation point.

46. (Previously Presented) A receiver as claimed in claim 38, wherein said plurality of potential values comprise potential values for a currently estimated signal.

47. (Previously Presented) A receiver as claimed in claim 38, wherein a metric is determined for the extended estimates.

48. (Previously Presented) A receiver as claimed in claim 47, wherein at least some of said extended estimates are discarded in dependence on the determined metric.

49. (Previously Presented) A receiver as claimed in claim 47, wherein one or more existing estimates are discarded if a determined metric is better than that of said one or more existing estimates.

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50. (Previously Presented) A receiver as claimed in claim 47, wherein said metric is based on a function of the currently determined estimates and the received signal.

51. (Previously Presented) A receiver as claimed in claim 50, wherein said function is a squared Euclidean distance between said currently determined estimates and the received signal.

52. (Previously Presented) A receiver as claimed in claim 47, wherein said metric is calculated for a signal estimate at least partially from metric values stored during the calculation of a previously determined estimate.

53. (Currently Amended) A receiver as claimed in claim 38, wherein said processor is ~~arranged~~configured to treat those signals for which an estimate has not yet been determined as noise.

54. (Currently Amended) A receiver as claimed in claim 38, wherein the processor is ~~arranged~~configured, before determining any estimates to calculate at least one of:

the matrix product of the channel transfer function multiplied by itself;

the squared length of the channel impulse response for at least one signal received by at least one receiving element; and

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an inner function defined by the received signal multiplied by the channel impulse response.

55. (Currently Amended) A receiver as claimed in claim 38, wherein for each estimate, ~~the~~ quantities

$$\|r-H(v_s+v_e)\|^2, \; \|r-Hv_s\|^2, \; 2\Re\{(c_k-\hat{c}_k)^*(e_k^H H^H Hv_s - h_k^H r)\}, \; |c_k-\hat{c}_k|^2\|h_k\|^2$$

are calculated.

56. (Previously Presented) A receiver as claimed in claim 38, wherein said receiving elements comprise antennas.

57. (Currently Amended) A method ~~for receiving a plurality of signals at the same time~~, ~~said method~~ comprising ~~the steps~~:

receiving a plurality of signals at the same time;

receiving at each of a plurality of receiving elements a composite signal including at least some of said plurality of signals; and

processing said composite signal of each of said received plurality of receiving ~~elements'~~ elements ~~composite signal~~ to provide ~~a~~ an estimate of at least two of said plurality of signals.;

said processing ~~step being arranged~~ comprising

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to provideproviding an estimate of a first one of said signals and then to provideproviding an estimate of a second one of said signals wherein during said processing step, and

extending, for each already determined estimate, the estimate is extended with a plurality of potential values,

wherein said estimate of said second one of said signals takes into account the estimate of the first signal and the estimate of the first signal can be modified in dependence on the estimate of the second signal.

58. (Currently Amended) A method as claimed in claim 57, wherein said processing step further comprises

providingprovides an initial estimate of said plurality of signals, said processing step using said initial estimate as a first value for said first and second estimates.

59. (Currently Amended) A method as claimed in claim 57, wherein said processing step further comprises

providingprovides an estimate of at least three signals and the estimate of each successive signal takes taking into account the previously determined signal estimates.

60. (Currently Amended) A method as claimed in claim 57, wherein said processing step further comprises

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providing~~provides~~ an estimate of at least three signals and any one or more of the previously determined ~~estimate~~estimates ~~can be~~ modified in dependence on a current signal estimate.

61. (Currently Amended)   A method as claimed in claim 57, wherein said processing ~~step~~ further determines ~~the~~ an order in which the signals are estimated.

62. (Currently Amended)   A method as claimed in claim 61, wherein said processing ~~step~~ further comprises

determining~~determines~~ the order in which the signals are estimated taking into account at least one of received signal level and signal to noise ratio.

63. (Previously Presented)   A method as claimed in claim 57, wherein said potential values comprise constellation points.

64. (Previously Presented)   A method as claimed in claim 63, wherein said estimate is extended by every possible constellation point.

65. (Previously Presented)   A method as claimed in claim 57, wherein said plurality of potential values comprise potential values for a currently estimated signal.

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66. (Previously Presented) A method as claimed in claim 57, wherein a metric is determined for the extended estimates.

67. (Currently Amended) A method as claimed in claim 66, ~~wherein~~ further comprising:

discarding at least some of said extended estimates ~~are discarded~~ in dependence on the determined metric.

68. (Currently Amended) A method as claimed in claim 66, ~~wherein~~ further comprising:

discarding one or more existing estimates ~~are discarded~~ if a determined metric is better than that of said one or more existing estimates.

69. (Previously Presented) A method as claimed in claim 66, wherein said metric is based on a function of the currently determined estimates and the received signal.

70. (Previously Presented) A method as claimed in claim 69, wherein said function is a squared Euclidean distance between said currently determined estimates and the received signal.

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71. (Previously Presented) A method as claimed in claim 66, wherein said metric is calculated for a signal estimate at least partially from metric values stored during the calculation of a previously determined estimate.

72. (Previously Presented) A method as claimed in claim 57, wherein the ~~step of~~ processing treats those signals for which an estimate has not yet been determined as noise.

73. (Currently Amended) A method as claimed in claim 57, wherein the ~~step of~~ processing further comprises ~~the steps~~, prior to the ~~step of~~ determining <u>of</u> any estimates, ~~of~~ calculating at least one of:

the matrix product of the channel transfer function multiplied by itself;

the squared length of the channel impulse response for at least one signal received by at least one receiving element; and

an inner function defined by the received signal multiplied by the channel impulse response.

74. (Currently Amended) A method as claimed in claim 57, wherein for each estimate, ~~the~~ quantities

$$\|r-H(v_s+v_e)\|^2, \ \|r-Hv_s\|^2, \ 2\Re\{(c_k-\hat{c}_k)^*(e_k{}^H H^H H v_s-h_k{}^H r)\}, \ |c_k-\hat{c}_k|^2\|h_k\|^2$$

are calculated.

75. (New) A receiver for receiving a plurality of signals, said receiver comprising:

plurality of receiving element means each for receiving a composite signal including at least some of said plurality of signals, wherein the receiver receives said plurality of signals at the same time; and

processing means for receiving said plurality of receiving element composite signal and providing an estimate of at least two of said plurality of signals, said processing means providing an estimate of a first one of said signals and providing an estimate of a second one of said signals, wherein said processing means, for each already determined estimate, for extending the estimate with a plurality of potential values, wherein said estimate of said second one of said signals takes into account the estimate of the first signal and the estimate of the first signal modified in dependence on the estimate of the second signal.

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